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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,464	11/06/2003	Masaru Ishihara	245049US0CONT	8605

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EXAMINER

MAIER, LEIGH C

ART UNIT PAPER NUMBER

1623

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/701,464

Applicant(s)

ISHIHARA ET AL.

Examiner

Leigh C. Maier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration..
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 3-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/6/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claim 3 is objected to because of the following informalities: "cellulose" is misspelled.

Appropriate correction is required.

Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims depend from a canceled claim, rendering them vague and indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 3, 5, 6, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Iguchi et al (US 4,742,164).

As noted above, claims 4-10 depend from a canceled claim. However, in order to expedite prosecution, they are being examined as if each of these claims depended from the single independent claim, claim 3.

Claim 1 recites “[a] bacterial cellulose [sic] comprising ribbon-shaped microfibrils having a Young’s modulus (YM) of about 13 to 20 GPa.” It is noted that Table 1 of the instant specification tabulates values for YM and elongation at rupture. However, these values appear to be measured using a sheet prepared from the microfibrils. Comparing this data to the claim language, it appears that these values should be essentially the same in the microfibrils and the sheets prepared therefrom.

Iguchi discloses cellulosic sheets having modulus of elasticity (YM) of 15.8 GPa and 13.6 GPa. See examples 1 and 18, respectively. These sheets are prepared from bacterial cellulose having ribbon-like microfibrils having dimensions which would result in an aspect ratio range overlapping with the range recited in claim 6. See col 2, lines 44-47.

The reference is silent regarding the elongation at rupture. However, this property appears to be linked with the modulus of elasticity and would appear to be similar to the instant invention. Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

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Claims 3 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al (US 4,863,565).

As noted above, claims 4-10 depend from a canceled claim. However, in order to expedite prosecution, they are being examined as if each of these claims depended from the single independent claim, claim 3.

Johnson teaches the culturing of bacterial cellulose in a medium comprising a fungicide, which in the process of killing fungi is by definition an inhibitor of cell division, and subsequent isolation of the cellulose produced. See Example VII. The reference is silent regarding the YM of the product. However, the art-disclosed process meets the requirements of the instant method, so the product would be assumed to have the recited physical limitations. Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 3-6, 8, and 9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17 and 18 of U.S. Patent No. 6,060,289. Claim 10 is rejected over claims 8-16 of '289. Iguchi et al (US 4,742,164) is cited to support inherency. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claims 17 and 18 of '289 recite a bacterial cellulose comprising microfibrils having YM of 13-20 GPa or 16-20 GPa, respectively. The microfibrils width and thickness that would define an aspect ratio overlapping with the range recited in claim 6. The width range also has substantial overlap with the width range recited in claim 4. The product having the YM recited in the reference claims would also be expected to have a similar elongation of rupture as that recited in instant claims 8 and 9. The reference claims do not recite "ribbon-like" microfibrils. However, it would appear that bacterial cellulose microfibrils are inherently ribbon-like. See discussion of Iguchi above. In view of the foregoing, the instant product would be obvious over the product of '289.

Claims 8-16 of '289 are drawn to the production of bacterial cellulose comprising culturing bacteria in a medium comprising a cell division inhibitor and recovering the cellulose. The claim does not recite the YM of the cellulose thus produced. However, the specification discloses that the cellulose produced by this method has a YM of 13 to 20 GPa. See col 3, lines 41-46. Therefore, the instant process would be obvious over the one recited in the reference claims.

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Claims 3-5, 8, 9, and 10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 6,627,419. Claim 10 is rejected over claims 8-16 of '289. Iguchi et al (US 4,742,164) is cited to support inherency. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claim 13 of '419 is drawn to the production of bacterial cellulose comprising ribbon-shaped microfibrils having a width of 250 to 1000 nm. The process for said production comprises culturing bacteria in a medium comprising a cell division inhibitor and recovering the cellulose. Therefore, the instant process would be obvious over the one recited in the reference claims. Although the claims are drawn to a process and not a product, the product is defined in the process steps, so the instant product would be obvious. Limitations of claims 4, 8, and 9 were addressed in the discussion of '289 above.

Claims 3 and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 75 of copending Application No. 10/140,040. Claims 3-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 58 and 59 of copending Application No. 10/140,040. Although the conflicting claims are not identical, they are not patentably distinct from each other.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Claims 58 and 59 of '040 are drawn to the production of bacterial cellulose comprising culturing bacteria in a medium comprising a cell division inhibitor and recovering the cellulose. Therefore, the instant process would be obvious over the one recited in the reference claims. Although the claims are drawn to a process and not a product, the product is defined in the process steps, so the instant product would be obvious. The reference claims do not recite "ribbon-like" microfibrils. However, it would appear that bacterial cellulose microfibrils are inherently ribbon-like. See discussion of Iguchi above. In view of the foregoing, the instant process would be obvious over the product of '040.

Claim 75 of '040 is drawn to a bacterial cellulose comprising microfibrils having width of 1 to 9 nm and a width of 250 to 1000 nm and a YM of 13 to 20 GPa. The recited dimensions would result in a microfibril having an aspect ratio range encompassed by or having substantial overlap with the ranges recited in claims 6 and 7. Limitations of claims 4, 8, and 9 were addressed in the discussion of '289 above. The limitation regarding "ribbon-like" microfibrils has been addressed above. In view of the foregoing, the instant product would be obvious over the product of '040.

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Examiner's hours, phone & fax numbers

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Maier whose telephone number is (571) 272-0656. The examiner can normally be reached on Tuesday, Wednesday, and Friday 7:00 to 3:30 (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson (571) 272-0661, may be contacted. The fax number for Group 1600, Art Unit 1623 is (703) 872-9306.

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Leigh C. Maier

Leigh C. Maier
Patent Examiner
December 10, 2004